NEXT GENERATION JAMMER LOW BAND (INC 2) (NGJ LOW BAND)

December 2021 Selected Acquisition Report (SAR)

DECEMBER 31, 2021
DEPARTMENT OF THE NAVY

Contents

Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost
PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Manager

Name: CAPT David J Rueter

Date Assigned: August 5, 2021

Address: Building 2272, 47123 Buse Road, Patuxent River, MD 20670

Phone: 301-757-7994

Email: david.j.rueter.mil@us.navy.mil

Mission and Description

Next Generation Jammer Low Band (INC 2) (NGJ Low Band) addresses Airborne Electronic Attack (AEA) capability and sufficiency gaps against enemy threats operating in the lower frequency bands of the electromagnetic spectrum and increases survivability and lethality of 4th and 5th generation platforms and strike weapons. NGJ Low Band will provide the ability to effectively engage enemy threats from increased stand-off distances, employ increased capacity (number of jamming assignments) against enemy targets, and support agile employment by operators. NGJ Low Band will augment and ultimately replace the legacy AN/ALQ-99 Tactical Jamming System in the low frequency spectrum. Operating in concert with the EA-18G's electronic receiver and through the aircraft's on-board mission computers, NGJ is designed to provide EA capability when employed in an independent, standoff, modified escort, and escort role. NGJ Low Band is designed to be a single pod mounted on the EA-18G's center station (station 6).

Executive Summary

This is the initial SAR submission for the NGJ Low Band program.

In December 2020, the Assistant Secretary of the Navy (Research, Development, and Acquisition) (ASN(RD&A)) signed the Milestone B Acquisition Decision Memorandum for the NGJ Low Band program authorizing entry into the EMD phase as an ACAT IB program and approved an LRIP quantity of up to 45 shipsets.

The EMD contract was awarded in December 2020. This award was subsequently followed by two protest periods to the Government Accounting Office (GAO), followed by a third protest period to the Court Of Federal Claims (COFC). The program is currently in litigation with COFC and is projecting schedule breaches. The COFC enjoined the Navy from moving forward with the current EMD award. The program is working with the Department of Justice to determine the most appropriate course of action to take. New schedule milestones will be established once litigation is complete.

Funding Status: NGJ Low Band RDT&E was Congressionally marked in FY 2022 for program delays (-$101.500M) as a result of the EMD protest along with a FY 2021 Rescission of -$51.500M. The rescission was included in the FY 2022 appropriations bill, but was not included in the PB 2023 budget submission.

Per Section 4252 (2366b) of title 10 U.S.C., completion of NGJ Low Band Test and Evaluation Master Plan (TEMP) by Milestone B was waived. The TEMP was approved by Director, Operational Test & Evaluation in December 2020.

The Current Total LRIP Quantity is more than 10% of the total production quantity in order to provide production representative NGJ Low Band systems in support of Initial Operational Test and Evaluation (IOT&E), ensure adequate and efficient manufacturing capability while maintaining the industrial base, and permit an orderly increase, and hence reduced risk, in the NGJ Low Band production rate leading to the current planned maximum/optimal economic production rate.

The NGJ Low Band Modular Open Systems Architecture approach requires the Prime Contractor to develop and comply with a Government-approved Open System Management Plan, to include identification of Commercial-Off-the-Shelf/Non-development Item components, their functionality and proposed use in the system, and provide copies of license agreements related to the use of these components for Government approval prior to use.

There are no known significant software-related issues with this program at this time.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	**Significant Development Description**
DEC 2020	NGJ Low Band program received Milestone B approval to enter EMD
DEC 2020	EMD Contract award
FEB 2021	Initial protest submitted to the GAO; stop work order initiated
MAY 2021	EMD contract stop work lifted
MAY 2021	Second EMD contract protest filed with GAO
MAY 2021	Second EMD contract stop work put in place
OCT 2021	Protest to the COFC
APR 2022	COFC enjoined the Navy from moving forward with the current EMD award

Schedule

Schedule Events

Schedule Events					
Events	**Development APB Objective**	**Current APB Development Objective/Threshold**		**Current Estimate/Actual**	**Deviation**
Milestone B	DEC 2020	DEC 2020	JUN 2021	DEC 2020	
Critical Design Review	OCT 2021	OCT 2021	OCT 2022	DEC 2022	
Milestone C	AUG 2026	AUG 2026	AUG 2027	AUG 2027	
Operational Test Readiness Review	SEP 2028	SEP 2028	SEP 2029	SEP 2029	
Initial Operational Test & Evaluation	OCT 2028	OCT 2028	JUN 2029	JUN 2029	
Initial Operational Capability	JUL 2029	JUL 2029	JAN 2030	JAN 2030	
Full Rate Production	JUN 2030	JUN 2030	DEC 2030	DEC 2030	

Schedule Notes:
The program is currently in litigation with COFC and is projecting schedule breaches. New schedule milestones will be established once litigation is complete.

Significant Schedule Risks

Significant Schedule Risks	
Current Estimate (December 2021)	
1.	Full impact of the protest periods on the EMD contract will be determined after the COFC proceedings.

Performance

Performance Characteristics					
Development APB Objective	**Current APB Development Objective/Threshold**		**Demonstrated Performance (include Date of Demonstration)**	**Current Estimate/Actual**	**Deviation**
Material Availability (Am)					
>=0.69	>=0.69	>=0.76	TBD 12/03/2021	TBD	
Operational Availability (Ao)					
>=0.87	>=0.87	>=0.96	TBD 12/03/2021	TBD	

Requirements Source: NGJ CDD, JROC approval August 11, 2015

Acquisition Budget Estimate

Total Acquisition Cost

		Development APB	APB Name (Current) 12/08/2020)		Budget Estimate PB 2023		
Category	**Base Year**	**Objective (BY$)**	**Objective (BY$)**	**Threshold (BY$)**	**BY$**	**TY$**	**Deviation**
RDT&E	2020	2046.4	2046.4	2251.0	2191.7	2537.5	
Procurement	2020	2070.0	2070.0	2277.0	1979.1	2599.1	
MILCON	2020						
Acq. O&M	2020						
Total		4116.4	4116.4	4528.0	4170.7	5136.6	
PAUC	2020	30.492	30.492	33.541	26.717		
APUC	2020	15.333	15.333	16.866	15.213		

Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	0	0
Procurement	135	135

Budget Notes:
The PB 2023 RDTE budget increased by $308M (TY$) from the Milestone B APB due to a mix of the technical maturity of various sub-systems adding development cost, schedule delays from the EMD contract protest/stop-work extending the length of the development program and FY 2022 Congressional reductions. The PB 2023 Aircraft Procurement, Navy (APN) budget decreased by $32M (TY$) predominantly due to a reduction in spares funding.

Risk and Sensitivity Analysis

Risks and Sensitivity Analysis	
Current Procurement Cost (December 2021)	
1.	No change
Original Baseline Estimate (December 2020)	
1.	After review of the programmatic and technical baseline at Milestone B, the MDA directed the NGJ Low Band program to use the SCP as the funding requirement. The OSD CAPE performed an ICE, which independently validated the SCP. Despite using different methodologies, both estimates were well within the bounds of estimating error both in total and for each individual phase of the life cycle cost estimate. The development estimate will be sensitive to software, transmitter group and Controller-Receiver-Exciter (CRE) design, and engineering design module asset procurement. The production estimate was determined to be highly sensitive to the technical inputs associated with the transmitter group CRE cost. The transmitter group and CRE costs were estimated based on analogies to NGJ Mid-Band with program specific adjustments for complexity. The Learn and Rate curves were based on analysis of historical production data.
Revised Original Estimate (N/A)	
None	

Unit Cost

Current Baseline Compared with Current Estimate

Category (BY 2020)	Current APB	Current Estimate	% Change	NMC Breach
PAUC				
Cost	4116.4	4170.7	-	-
Quantity	135	135	-	-
Unit Cost	30.492	30.895	1.4%	
APUC				
Cost	2070.0	1979.1	-	-
Quantity	135	135	-	-
Unit Cost	15.333	14.660	-4.4%	

Original Baseline Compared with Current Estimate

Category (BY 2020)	Original APB	Current Estimate	% Change	NMC Breach
PAUC				
Cost	4116.4	4170.7	-	-
Quantity	135	135	-	-
Unit Cost	30.492	30.895	1.4%	
APUC				
Cost	2070.0	1979.1	-	-
Quantity	135	135	-	-
Unit Cost	15.333	14.660	-4.4%	

Contracts

Contract Data ($TYM)		
Contract Number	N00019-21-C-0021	
Effort Number	1	
Modification Number		
Award Date	12/18/2020	
Definitization Date	12/18/2020	
Order Number		
CAGE Code/CAGE Legal Name	06401/ L3 TECHNOLOGIES, INC. COMMUNICATION SYSTEMS-WEST	
Contract Title	EMD Operational Prototype	
Contract Address	640 N 2200 W, SALT LAKE CITY UT 84116-2925	
Contracts/Effort Price, Quantity, and Performance ($M)		
Initial Target Price	Current Target Price	
Initial Ceiling Price	Current Ceiling Price	
Contract's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

Contract Notes:
The full impact of the protest periods on the EMD contract will be determined after the litigation is complete. The COFC has enjoined the Navy from moving forward with the current EMD award.

Technologies and Systems Engineering

Significant Technical Risks

Significant Technical Risks	
Current Estimate (December 2021)	
1.	There are no risks identified with this program.

Deliveries and Expenditures

Deliveries				
Delivered to Date	**Planned to Date**	**Actual to Date**	**Total Quantity**	**Percent Delivered**
Development	0	0	0	0.00%
Production	0	0	135	0.00%
Total Program Quantity Delivered	0	0	0	0.00%

Expended and Appropriated (TY $M)

Total Acquisition Cost: 5136.62
Expended to Date: 295.17
Percent Expended: 5.7%
Total Funding Years: 21
Years Appropriated: 7
Percent Years Appropriated: 33.3%
Appropriated to Date: 526.37
Percent Appropriated: 10.2%

The above data is current as of April 18, 2022.

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	December 8, 2020	
Approved Quantity	45	
Reference	NGJ Low Band Navy Milestone B ADM	
Start Year		
End Year		

Rationale if Current Total LRIP Quantity exceeds 10% of the total Procurement quantities:
The Current Total LRIP Quantity is more than 10% of the total production quantity in order to provide production representative NGJ Low Band systems in support of IOT&E, ensure adequate and efficient manufacturing capability while maintaining the industrial base, and permit an orderly increase, and hence reduced risk, in the NGJ Low Band production rate leading to the current planned maximum/optimal economic production rate.

Operating and Support Costs

Total Program O&S Cost Compared with Baseline

	Current APB Objective (BY$)	Current APB Threshold (BY$)	Current Estimate (BY$)	Current Estimate (TY$)	Deviation
Total O&S ($Millions)	934.0	1027.4	929.5	1408.6	

O&S Cost Breakdown

Allocate O&S estimate by each weapon system (or system variants) acquired by the program into the CAPE Cost Categories.

Category (BY$ Million)	NGJ Low Band
Unit-Level Manpower	0.000
Unit Operations	0.000
Maintenance	0.312
Sustaining Support	0.184
Continued System Improvements	0.173
Other	0.000
Total O&S	.668

Cost Estimate Source: Component Cost Estimate (CCE)

O&S Cost Notes:

a. Disposal/Demilitarization Cost Estimate and Source of Estimate:
Disposal/Demilitarization costs projected to be $2.4M CY 2020$ ($4.1M TY$). Source of estimate is CCE.

b. Sustainment Strategy:
-Developmental Support Strategy utilizes Contractor Logistics Support (CLS) for on-site test support, spares, and repairs and initiates a Public-Private Partnership at contract award between the Contractor and Naval Surface Warfare Center (NSWC) Crane to develop and maintain the product support package through the completion of IOT&E.
-Interim Support Strategy consists of O-Level to Original Equipment Manufacturer (OEM) support, as well as material and services through Captains of Industry (COI) support, and early provisioning from the completion of IOT&E through IOC plus four (4) years.
-Long Term Support Strategy is transitioning into three-level Organic maintenance capability and utilizing a variety of Performance Based Acquisitions (PBAs) supported by analysis.
-Unit of measure (system) is defined as a shipset, which consists of 1 pod.

c. NGJ Low Band planned utilization rates, as described in OPNAV N98 Memo dated April 21, 2020, is a percentage of aircraft inventory planning factors for EA-18G. Percentages were derived from historical averages of ALQ-99 equivalent band capability. CVW: 55%, EXPED: 50%, FRS: 5%, NAWDC: 45%, Test: 35%.For Each Acquired System or System Variant:
   i. Quantity to Sustain: 135
   ii. First Operational Fiscal Year: FY 2029
   iii. Final Operational Fiscal Year: FY 2046
   iv. Unit Expected Service Life: 20 year
   v.

d. Antecedent System(s) O&S Costs:
- Antecedent program: ALQ-99 Tactical Jamming System
- The dataset used in the antecedent costs below are reported FY 2008 costs, which are most representative of steady state prior to de-commissioning EA-6B squadrons.

- The dataset includes data from the ALQ-99 system, which covers a larger frequency spectrum than the NGJ Low-Band system, and is not normalized to specific low-band data.
- Due to data limitations, the antecedent is represented in dollars per aircraft operating years based on Primary Aircraft Authorization.
- Data sources: Decision Knowledge Programming for Logistics Analysis and Technical Evaluation, Naval Visibility and Management of Operating and Support Costs database, and various technical sources, including Naval Air Systems Command AIR 4.2.2, Naval Air Warfare Center Weapons Division Point Mugu, Naval Sea Systems Command Crane, and Center for Naval Aviation Technical Training.

Total O&S Cost for ALQ-99 in CY 2016$ is $1409.9M.
Average Annual Cost per System ALQ-99 (Antecedent) is $0.765M ($0.060M Unit-Level Manpower, $0.536M Maintenance, $0.065M Sustaining Support, $0.077M Continuing System Improvements, $0.027M Indirect Support).